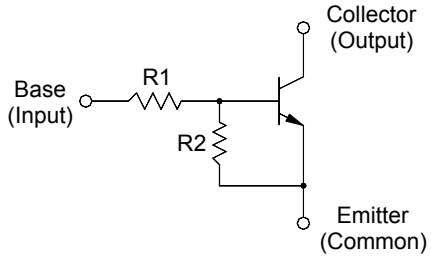
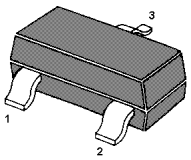
MMDTN133

NPN Silicon Epitaxial Planar Digital Transistor





1. Base 2. Emitter 3. Collector

SOT-23 Plastic Package

Absolute Maximum Ratings (T_a = 25 °C)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	50	V
Collector Emitter Voltage	V_{CEO}	50	V
Emitter Base Voltage	V_{EBO}	10	V
Input On Voltage	$V_{i(on)}$	20	V
Collector Current	I_C	100	mA
Total Power Dissipation	P_{tot}	200	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	- 65 to + 150	°C

Resistor Values

Type	R1 (KΩ)	R2 (KΩ)
MMDTN133	10	10

Characteristics at T_a = 25 °C

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at V_{CE} = 5 V, I_C = 5 mA	h_{FE}	30	-	-	-
Collector Base Breakdown Voltage at I_C = 10 µA	$V_{(BR)CBO}$	50	-	-	V
Collector Emitter Breakdown Voltage at I_C = 100 µA	$V_{(BR)CEO}$	50	-	-	V
Collector Base Cutoff Current at V_{CB} = 40 V	I_{CBO}	-	-	100	nA
Emitter Base Cutoff Current at V_{EB} = 10 V	I_{EBO}	-	-	0.75	mA
Collector Emitter Saturation Voltage at I_C = 10 mA, I_B = 0.5 mA	V_{CEsat}	-	-	0.3	V
Input Off Voltage at V_{CE} = 5 V, I_C = 100 µA	$V_{i(off)}$	0.8	-	1.5	V
Input On Voltage at V_{CE} = 0.3 V, I_C = 2 mA	$V_{i(on)}$	1	-	2.5	V
Transition Frequency at V_{CE} = 5 V, I_C = 10 mA, f = 100 MHz	f_T	-	130	-	MHz
Input Resistor	R1	7	10	13	KΩ
Resistor Ratio	R1/R2	0.9	1	1.1	-